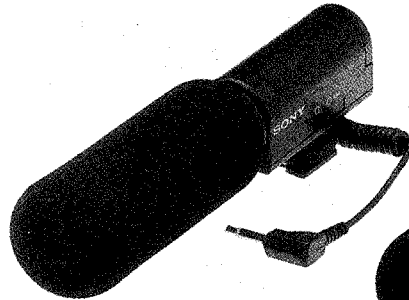


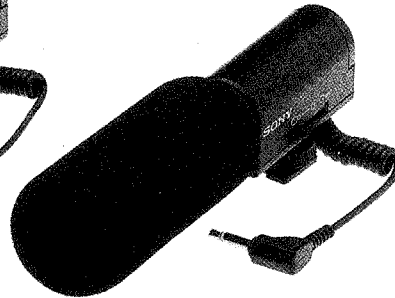
ECM-K57/Z157

SERVICE MANUAL

US Model
E Model



ECM-K57



ECM-Z157

SPECIFICATIONS

(ECM-K57)

General
Type Electret condenser microphone
Microphone output plug L-shaped miniplug
Dimensions 36 x 47 x 145 mm (w/h/d)
(1 7/16 x 1 7/8 x 5 3/4 inches)
Weight Approx. 70g (2.47oz) (including battery)
Supplied accessories Sony battery SUM-3(NS) (1)

Performance
Frequency response 150-12,000 Hz
Output impedance 400Ω ± 30%
Output level (deviation ± 4 dBm)

	Effective output level ^{*1}	Signal to noise ratio ^{*2}
Uni-directional	- 46 dBm	More than 62 dB
Omni-directional	- 47 dBm	More than 59 dB

^{*1} 0 dBm = 1 mW/Pa, 1,000 Hz ^{*2} 1,000 Hz • 1 Pa
1 Pa = 10 μ bar = 94 dB SPL

Power requirements

Normal operating voltage: 1.5 V
Battery life Approx. 1500 hours of continuous use, using Sony SUM-3(NS) battery
Maximum sound pressure input level^{*3}
Uni/omni-directional: more than 110 dB SPL
^{*3} The mean value is taken and converted to the equivalent input sound level. 0 dB SPL = 2 × 10⁻⁵ Pa
Environmental temperatures 0°C to +60°C (+32°F to +140°F) for operation

(ECM-Z157)

General
Type Electret condenser microphone
Microphone output plug L-shaped miniplug
Dimensions 36 x 47 x 145 mm (w/h/d)
(1 7/16 x 1 7/8 x 5 3/4 inches)
Weight Approx. 75 g (2.65 oz) (including battery)
Supplied accessories Carrying case (1)
Sony battery SUM-3(NS) (1)

Performance
Frequency response Narrow angle: 300-10,000 Hz
Uni-directional: 150-12,000 Hz
Omni-directional: 150-12,000 Hz
Output impedance 400Ω ± 30%
Output level (deviation ± 4 dBm)

	Effective output level ^{*1}	Signal to noise ratio ^{*2}
Narrow angle	- 34 dBm	More than 60 dB
Uni-directional	- 46 dBm	More than 82 dB
Omni-directional	- 47 dBm	More than 59 dB

^{*1} 0 dBm = 1 mW/Pa, 1,000 Hz ^{*2} 1,000 Hz • 1 Pa
1 Pa = 10 μ bar = 94 dB SPL

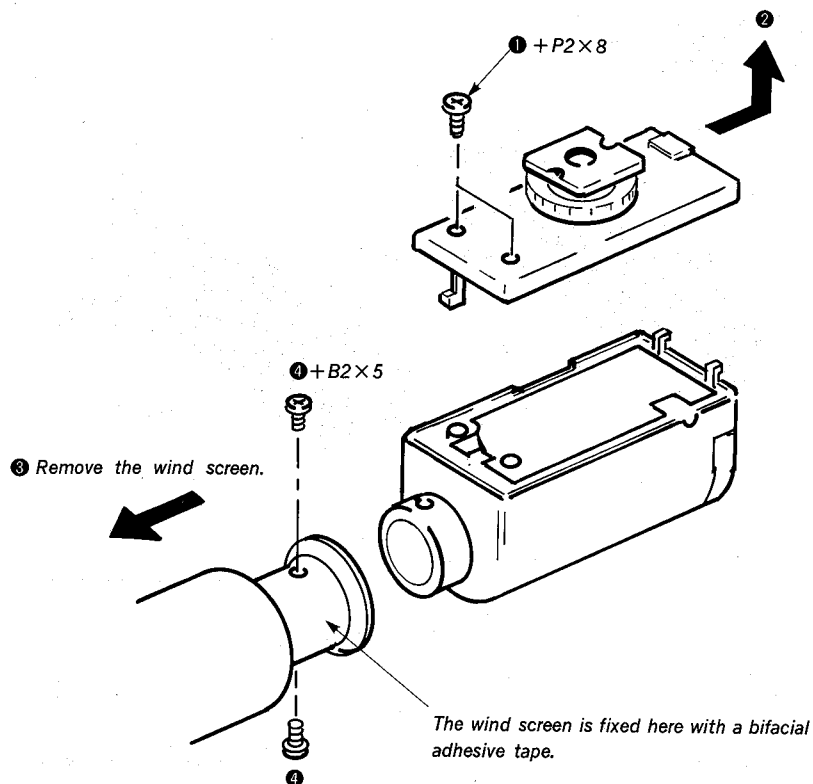
Power requirements

Normal operating voltage: 1.5 V
Battery life Approx. 800 hours of continuous use, using Sony SUM-3(NS) battery
Maximum sound pressure input level^{*3}
Narrow angle: more than 100 dB SPL
Uni/omni-directional: more than 110 dB SPL
^{*3} The mean value is taken and converted to the equivalent input sound level. 0 dB SPL = 2 × 10⁻⁵ Pa
Environmental temperatures 0°C to +60°C (+32°F to +140°F) for operation




ELECTRET CONDENSER MICROPHONE
SONY®

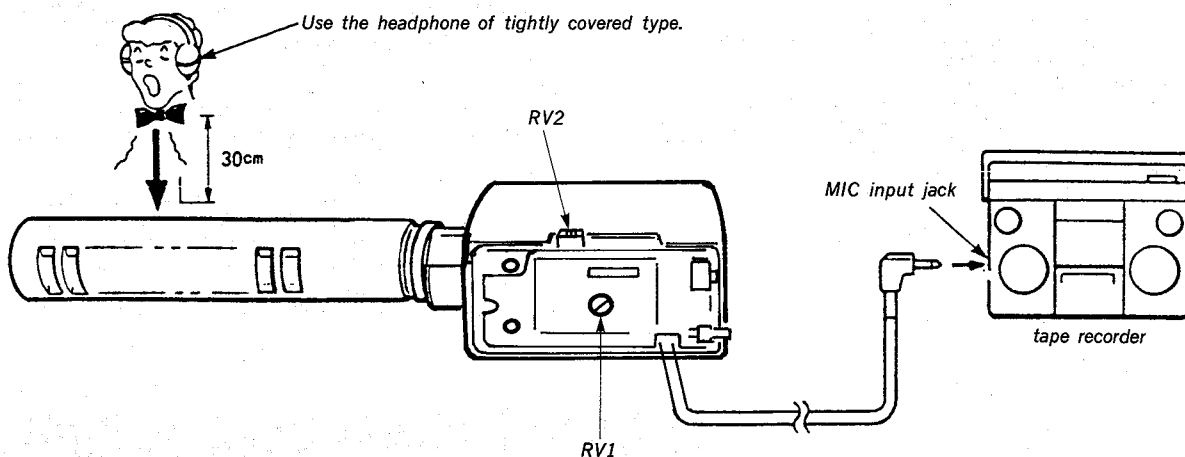
CASE REMOVAL



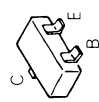
DIRECTIVITY ADJUSTMENT

Make this adjustment in replacement of Microphone capsule Assy, Q1, R3, R4 and R5.

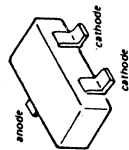
1. Set RV2 to the narrow directivity .
2. Connect the tape recorder have attached to MIC input jack.
3. Make voice in the direction at a right angle against capsule.
4. Adjust RV1 by the use of an adjusting driver insulated so as to make the minimum output from headphone output.



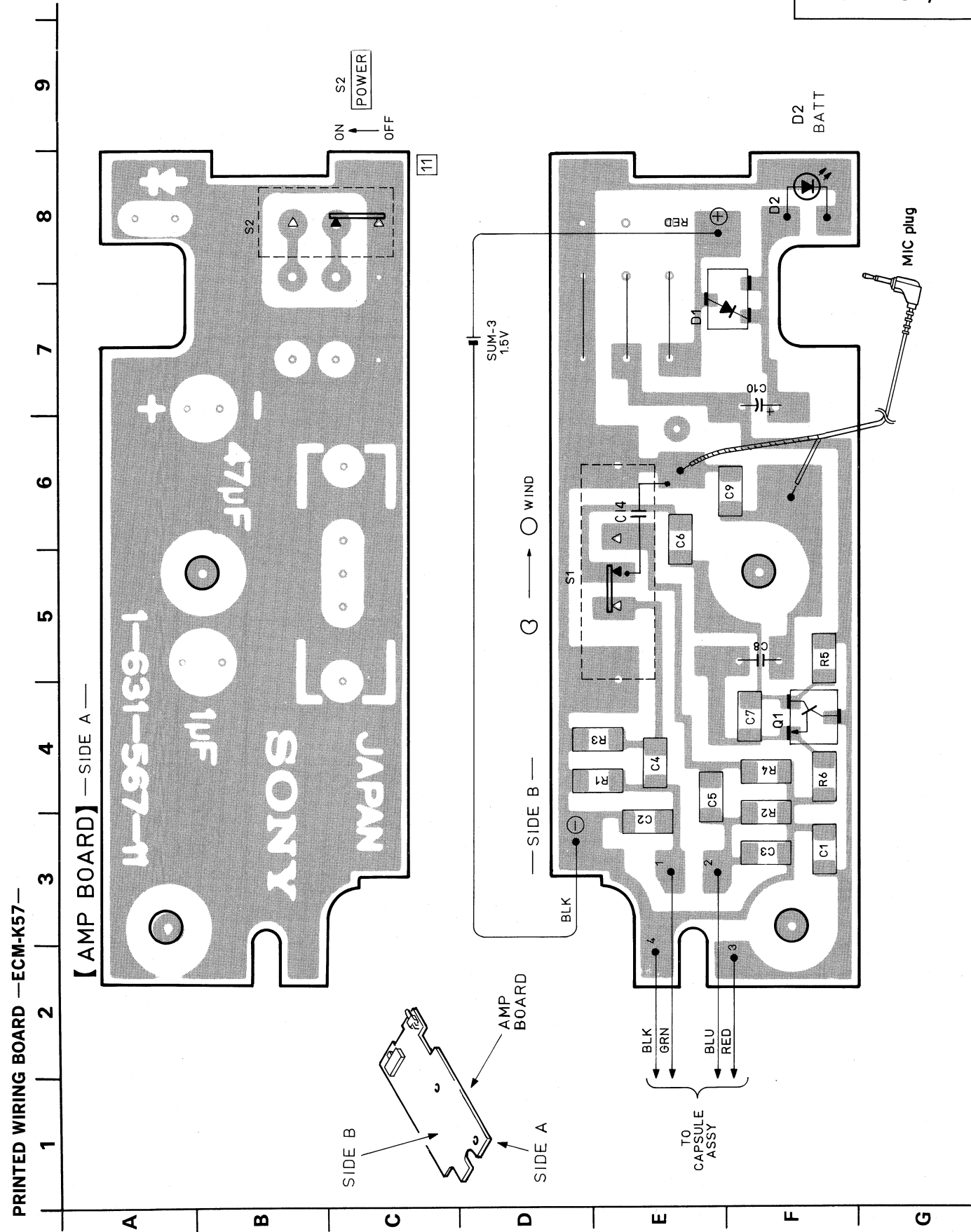
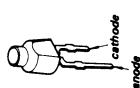
2SC2712G



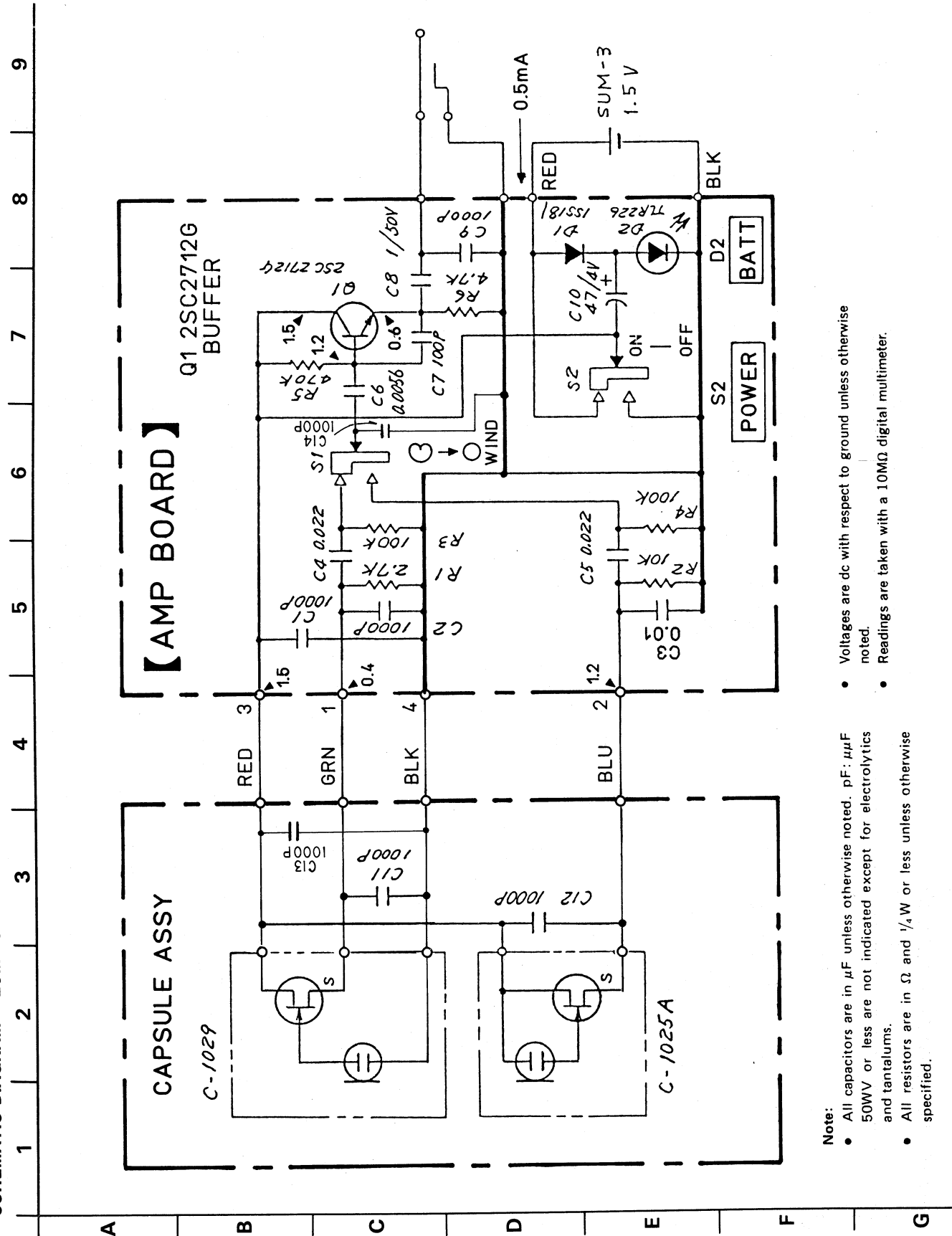
155181



TLR226



SCHEMATIC DIAGRAM — ECM-K57 —



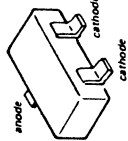
Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a $10\text{M}\Omega$ digital multimeter.

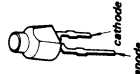
2SC2712G



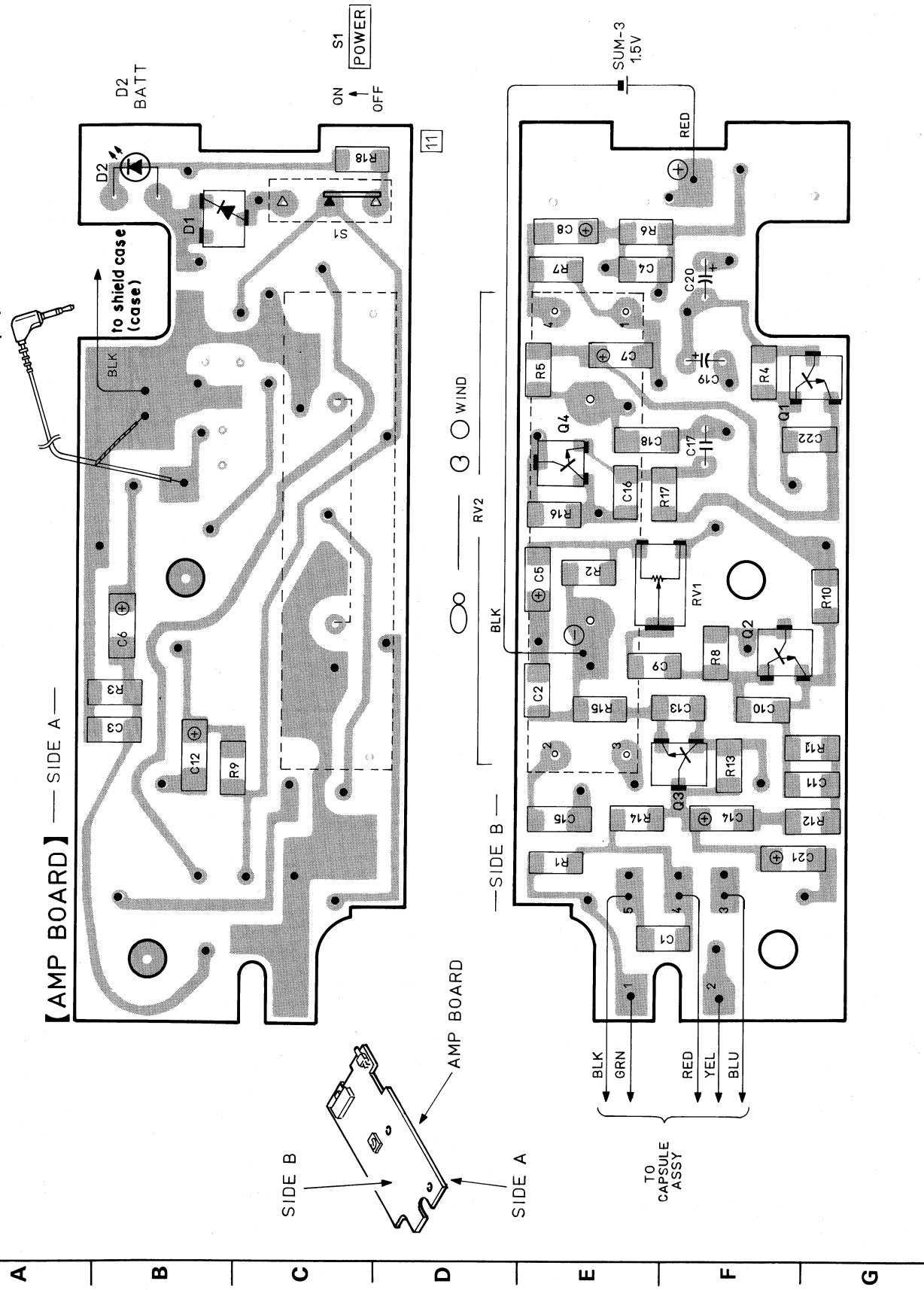
1SS181



TLR226



1 2 3 4 5 6 7 8 9

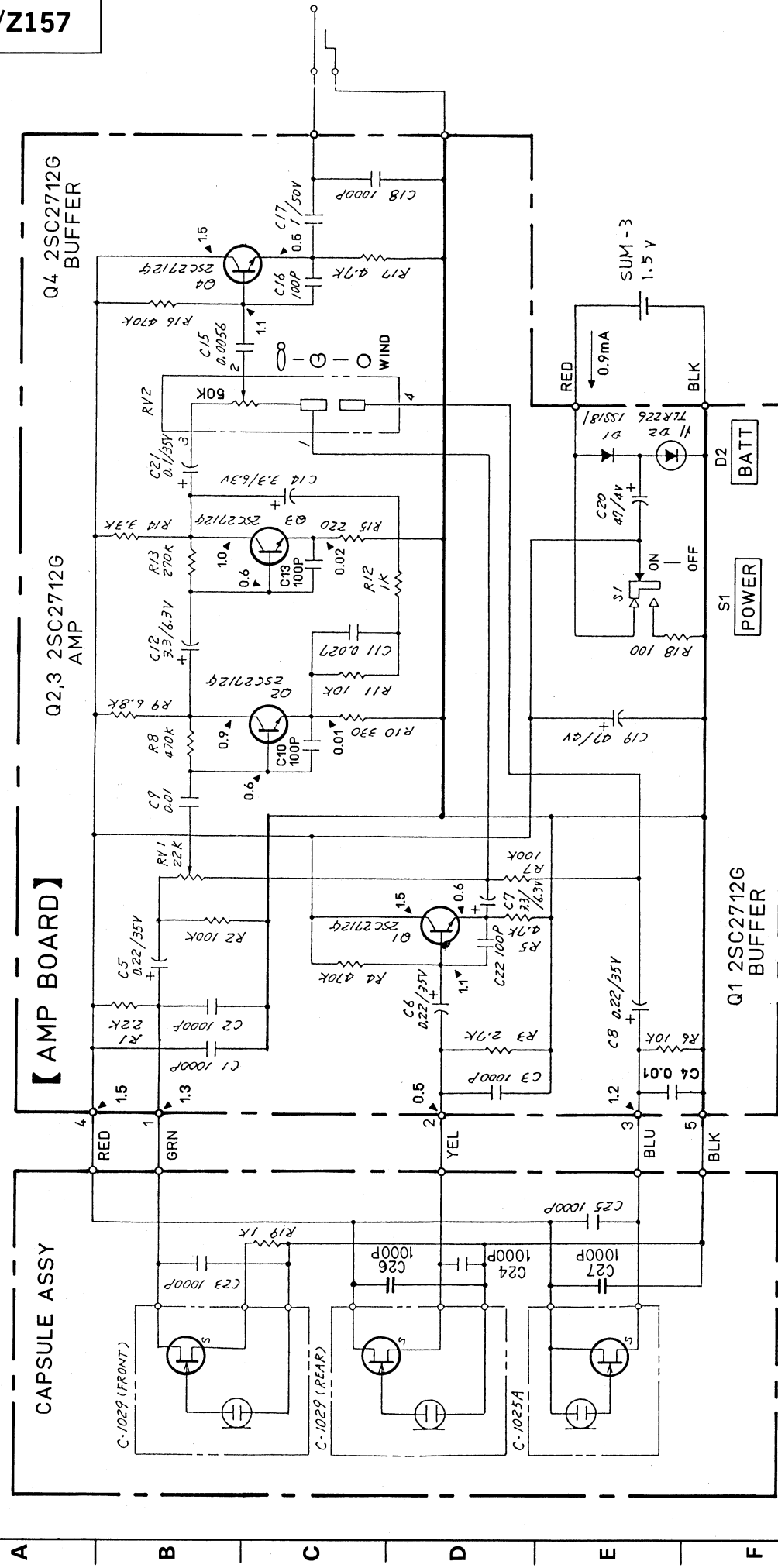


ECM-K57/Z157

ECM-K57/Z157

SCHEMATIC DIAGRAM — ECM-Z157 —

1 2 3 4 5 6 7 8 9 10



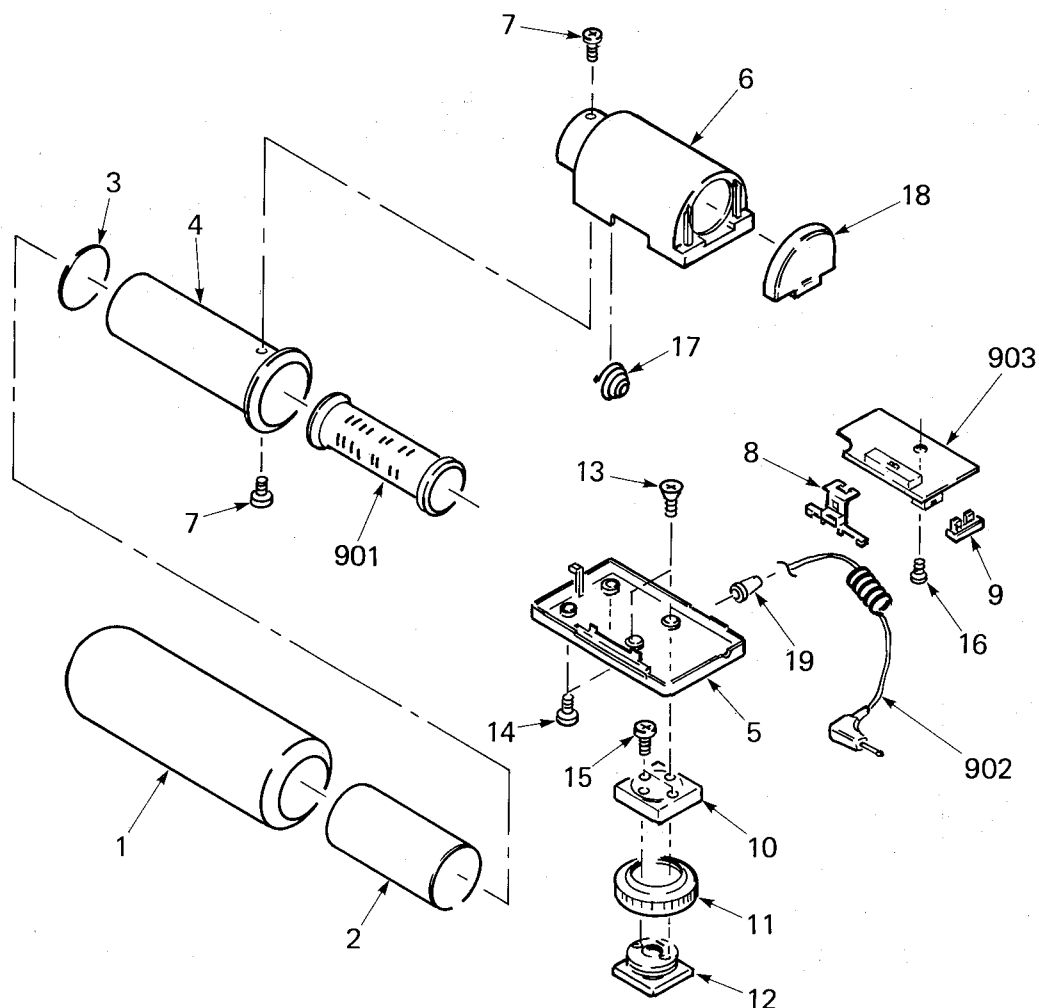
Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10M Ω digital multimeter.

EXPLODED VIEW AND PARTS LIST

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



Ref. NO.	Part NO.	Description
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1	2-537-340-01	WINDSCREEN
2	3-831-441-XX	SCREEN, SIDE
3	3-831-441-XX	SCREEN, TOP
4	2-537-344-01	CASE, MICROPHONE
5	2-537-377-01	CHASSIS
6	X-2533-821-1	CASE ASSY (ECM-K57)
	X-2537-309-1	CASE ASSY (ECM-Z157)
7	4-908-792-51	SCREW (B2×5), TAPPING, P1
8	2-537-369-01	KNOB (VOLUME)
9	2-537-370-01	KNOB (SWITCH)
10	2-533-691-01	DAMPER, LINING
11	2-533-369-01	KNOB, FIXED
12	2-533-697-01	HOLDER, SHOE

Ref. NO.	Part NO.	Description
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13	7-621-559-20	SCREW +K2.6×4
14	7-685-105-19	SCREW +P2×8 TYPE2 NON-SLIT
15	7-685-104-21	SCREW +P2×6 TYPE2 SLIT
16	7-685-103-19	SCREW +P2×5 TYPE2 SLIT
17	3-578-236-00	SPRING
18	X-2537-307-1	COVER ASSY, BATTERY
19	2-537-341-01	BUSHING
901	X-2533-820-1	CAPSULE ASSY (ECM-K57)
	X-2537-308-1	CAPSULE ASSY (ECM-Z157)
902	1-557-873-31	CORD, MICROPHONE (ONE CORE)
903	*A-4518-372-A	MOUNTED PCB, AMPLIFIER (ECM-K57)
	*A-4518-371-A	MOUNTED PCB, AMPLIFIER (ECM-Z157)

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μ F, PF: μ μ F.

RESISTORS
• All resistors are in ohms.
• F: nonflammable

COILS
• MMH: mH, UH: μ H

SEMICONDUCTORS
In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA...,
UPC...: μ PC, UPD...: μ PD...

(ECM-K57)

Ref. NO.	Part NO.	Description
903	*A-4518-372-A	MOUNTED PCB, AMPLIFIRE
C1	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C2	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C3	1-163-021-11	CERAMIC CHIP 0.01MF 10% 50V
C4	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V
C5	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V
C6	1-163-018-00	CERAMIC CHIP 0.0056MF 10% 50V
C7	1-163-117-00	CERAMIC CHIP 100pF 10% 50V
C8	1-124-499-11	ELECT 1MF 20% 50V
C9	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C10	1-124-432-00	ELECT 47MF 20% 4V
D1	9-988-349-01	DIODE 1SS181
D2	8-719-812-26	DIODE T1R226
Q1	8-729-271-22	TRANSISTOR 2SC2712G
R1	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R2	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R3	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R4	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R5	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R6	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
S1	1-572-017-11	SWITCH, SLIDE
S2	1-572-012-11	SWITCH, SLIDE (POWER)
901	X-2533-820-1	CAPSULE ASSY
902	1-557-873-31	CORD, MICROPHONE (ONE CORE)

ACCESSORY AND PAKING MATERIAL

Part NO.	Description
2-537-363-01	FRAME, INNER
2-538-747-01	BLISTER
2-538-749-11	CARDBOARD
3-750-653-11	MANUAL, INSTRUCTION

(ECM-Z157)

Ref. NO.	Part NO.	Description
903	*A-4518-371-A	MOUNTED PCB. AMPLIFIRE
C1	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C2	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C3	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C4	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C5	1-135-072-21	TANTAL. CHIP 0.22MF 20% 35V
C6	1-135-072-21	TANTAL. CHIP 0.22MF 20% 35V
C7	1-135-150-21	TANTAL. CHIP 3.3MF 20% 6.3V
C8	1-135-072-21	TANTAL. CHIP 0.22MF 20% 35V
C9	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C10	1-163-117-00	CERAMIC CHIP 100pF 10% 50V
C11	1-163-986-00	CERAMIC CHIP 0.027MF 10% 25V
C12	1-135-150-21	TANTAL. CHIP 3.3MF 20% 6.3V
C13	1-163-117-00	CERAMIC CHIP 100pF 10% 50V
C14	1-135-150-21	TANTAL. CHIP 3.3MF 20% 6.3V
C15	1-163-018-00	CERAMIC CHIP 0.0056MF 10% 50V
C16	1-163-117-00	CERAMIC CHIP 100pF 10% 50V
C17	1-124-499-11	ELECT 1MF 20% 50V
C18	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V
C19	1-124-432-00	ELECT 47MF 20% 4V
C20	1-124-432-00	ELECT 47MF 20% 4V
C21	1-135-070-00	TANTAL. CHIP 0.1MF 20% 35V
C22	1-163-117-00	CERAMIC CHIP 100pF 10% 50V
D1	9-988-349-01	DIODE 1SS181
D2	8-719-812-26	DIODE TLR226
Q1	8-729-271-22	TRANSISTOR 2SC2712G
Q2	8-729-271-22	TRANSISTOR 2SC2712G
Q3	8-729-271-22	TRANSISTOR 2SC2712G
Q4	8-729-271-22	TRANSISTOR 2SC2712G
R1	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
R2	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R3	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R4	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R5	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R6	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R7	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R8	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R9	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W
R10	1-216-037-00	METAL GLAZE 330 5% 1/10W
R11	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R12	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R13	1-216-107-00	METAL GLAZE 270K 5% 1/10W
R14	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R15	1-216-033-00	METAL GLAZE 220 5% 1/10W
R16	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R17	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R18	1-216-025-00	METAL GLAZE 100 5% 1/10W
RV1	1-237-119-11	RES. ADJ. METAL GLAZE 22K
RV2	1-238-652-11	RES. VAR. SLIDE (WITH SWITCH) 50K
S1	1-572-012-11	SWITCH. SLIDE (POWER)
901	X-2537-308-1	CAPSULE ASSY
902	1-557-873-31	COAD. MICROPHONE (ONE CORE)

ACCESSORY AND PAKING MATERIAL

Part NO.	Description
2-537-363-01	FRAME, INNER
2-537-365-01	BLISTER
2-537-367-01	CARDBOARD
2-539-310-01	CASE, CARRYING
3-750-652-11	MANUAL, INSTRUCTION